# unications

## **Index 1988**

Article locator organized alphabetically by subject matter.

DataLog

E/ET — Editorial viewpoint/EOT EN — Economic newsletter

eature ndustry Watch lawsfront

ashington newsletter

### ARTIFICIAL INTELLIGENCE, EXPERT SYSTEMS

An '80s facelift for a '30s technology: Al comes to Telex NF May p. 51 Finding and fixing network faults with an expert system F June p. 149 Xerox slips out of AI DL Oct. p. 85

### CARRIERS, COMMON

A fire threat from the ozone layer DL Sept. p. 84

AT&T growth plans suspect EN Feb.

AT&T holds call setup time lead, for now D March p. 16

AT&T seeks FCC okay to get down to MCI's level W June p. 25

AT&T, Ford bet \$100,000 on network delivery D April p. 16

AT&T: Don't leave home without Tariff 12 W Oct. p. 25

Carriers turn to 3/3 DACS for relief NF April p. 54

Carriers: Breaking up bandwidth is easy to do NF Aug. p. 58

Did AT&T throw sourball into toffee-net DL Nov. p. 84

FCC launches review of GE tariff DL Feb. p. 80

FCC upholds user right to bypass telco W March p. 25

Fiery expose: No national authority oversees central office security NF July p. 68

Long-distance breakdown blamed on local exchanges D Feb. p. 15

MCI worries rate cap may help AT&T W April p. 26

New RBOC data gateways spring up across the U.S. NF Dec. p. 60

Northeast: Maine has own ONA plans: New York wants bigger AT&T rate cut TL May p. 43

Nynex next RBOC player in T1 private net game D July p. 15

Ratings reveal carriers are worlds apart F Aug. p. 104

Ready to switch? Dial-up services faring better against leased lines NF Dec. p. 56

US West moves to counter bypass: Others cry foul W March p. 25

Who can tell what the phone company knows about you? NF June p. 55

### CARRIERS, SPECIALIZED

Ameritech to try systems integration? D Feb. p. 15

AT&T offers digital son of EPSCS W Sept. p. 25

Digital radio: When will it finally pay off? IW Oct. p. 101

FCC launches review of GE tariff DL Feb. p. 80

How to get back at hackers: Bill them W April p. 25

Market bearish, Merrill gets bypass bullish DL Feb. p. 80

MCI readies new dialing services for virtual network D May p. 16

Nynex next RBOC player in T1 private net game D July p. 15

Pac Bell attacks AT&T's ETN bargains W Sept. p. 25

Work started on North American digital cellular standard D Sept. p. 16

### CASE HISTORIES

A state builds a roadway between DEC and IBM F June p. 186

Airwaves access coming from bank trial in Buffalo D Feb. p. 16

Charging ahead: MasterCard keeps up with the credit explosion F Sept. p. 211

Fault intolerant: Running a nuclear power plant's LAN F Dec. p. 143

Flashing images across networks—a technology whose time is coming IW May p. 89

How to grow a world-class X.25 network F May p. 193

Intel looks toward ISDN for its voice and data network F Jan. p. 149

"ISDN" now: Northwestern bank converts tail circuits to T1 lines NF Feb. p. 58 Research house crosses oceans and

continents to track drug sales IW June p. 92

Wide area networks: Sewing a patchwork of pieces together F May p. 219

### CIRCUIT SWITCHING

AT&T's new BMS: No bandwidth flexibility, but it does switch NF June p. 66

Full-duplex, 9.6-kbit/s plug-in modem has async, sync autodialers NP July p. 196

Leased-line costs soar, dial costs drop EN April p. 35

MCI readies new dialing services for virtual network D May p. 16

Should the FCC dial 800-D-E-L-A-Y? W May p. 25

### COMMUNICATIONS PROCESSORS

Add-in board combines protocol converter, controller capabilities NP April p. 214

Building-block units add up to a platform for network services NP April p. 218

Communications adapter for IBM PCs links to 3274, 3174 NP Feb. p. 200

Communications board for IBM PS/2s has two serial interfaces NP May p. 264

Communications controller has 16 channel adapters NP March p. 308 Communications processor links Crays

to TCP/IP networks NP July p. 193 Communications server extends network resources NP Feb. p. 198

Communications server extends network resources NP Jan. p. 231

Front-end processor supports multiple versions of software NP July p. 198 Modular architecture accommodates

port speeds to 1.5 Mbit/s NP p. 266 Network processor links multiple sites;

uses dynamic routing NP Oct. p. 236 OSI and TCP/IP protocol processors support Netbios NP July p. 200

PC board ups data rates to 64 kbit/s for high-speed fax, Switched 56 NP Jan. p. 227

SDLC communications board supports multiple protocols NP June p. 234

SNA gateway runs 3270 and LU 6.2 applications over same line NP April p. 211

SPECIAL NEWS FEATURE: The dawn of the generic platform NF Feb. p. 66

Statistical multiplexer and communications processor are unveiled NP June p.233

Super controller monitors, configures, and tests 500 moderns NP Aug. p. 182

Telematics T1 switch coming EN May p. 35

Three Buses underlie new IBM frontend processor's powers NF March p. 62

Using a digital cross-connect as the hub in a private network F Oct. p. 161

VAX communications server supports TCP/IP; has 120 ports NP Feb. p. 205 X.25 board boasts 64-bit architecture, speeds to 10 Mbit/s NP June p. 242

### CONCENTRATORS

Board boosts data compression for high-speed modems NP Nov. p. 225 Board gives servers six ports and han-

dles 30 cerial lines NP March p. 312 Communications server extends net-

work resources NP Feb. p. 198
Concentrators extend the reach of
Ethernet networks NP Aug. p. 178
Data compression boosts throughout

of V.22bis moderns NP Dec. p. 163
Data compressor has automatic backup for nonstop sessions NP March

p. 315 Georgia Tech squeezes pictures 10,000 times DL Jan. p. 78

Modern supports four CPU applications on one multipoint line NP Dec. p. 164 Modular I/O board lets 32 users work

on a single IBM PS/2 NP April p. 216 Multistation access unit with eight ports for Token Ring links NP Feb. p. 210

PADs for async, SNA, and X.25 hookups on multi 64-kbit/s links NP May p. 268

10-port card lets users mix PAD, concentrator, and switch functions NP Dec. p. 162

X.25 switch handles eight links; can be used as a concentrator NP Feb. p. 208

### DATABASES

Case closed in government bid to secure private databases W Feb. p. 25 Disk-less NS Feb. p. 242

Enterprising idea? IBM lays plans to control databases of the '90s NF April p. 72

Entry-level voice gateway connects phones to databases NP Dec. p. 161 Information laws are dated in electronic database era W Nov. p. 26

Interactive processing gets bigger disk drive plus Ethernet support NP April p. 225

Turn an IBM AT into a file server for

multiple PCs NP Feb. p. 210
Will VAN access charges return from
the grave? D April p. 16

### DATALOG

Apple sues over windows' style: Silly or smart? DL May p. 82

AT&T links SDN, Switched 56 DL March p. 95

AT&T, Tandem in search of ISDN processing DL April p. 79

Bid blighted, Bork back at carrier cases
DL Jan. p. 79

Big Italian firms scrap Telit bid DL Jan. p. 78

Bigger networks, more data forecast DL March p. 95

Cable TV firm weighs big local fiber network DL Feb. p. 81

Capitalist bird will fly over China DL June p. 85

Couldn't IBM make its own supercomputer? DL Feb. p. 81

Demo set for TCP/IP network management standard DL June p. 85

FCC launches review of GE tariff DL Feb. p. 80

Fiber carrier connects to capitol teleport DL March p. 95

Fiber merger, satellite woes DL Jan. p. 78 Foreign calls soar \$1.4 billion in decade Feb. p. 81

GSA muddle: Was Soni aloni? DL March p. 94

IBM backs out of MCI, stresses EDI DL June p. 85

IBM battles board bottleneck DL April p. 78

IBM beats bit bigness (on disks) DL Jan. p. 79

IBM brings Rolm into the Blue as absorbed unit DL Jan. p. 78

IBM shows APPC-to-OSI link DL May p. 83 Intel looks toward ISDN for its voice

and data network F Jan. p. 149 Kludgey NSF RT-based network? DL April p. 78

Money or MIPS? AT&T after Olson, Cassoni DL June p. 84

NET plans T3 support DL March p. 95 Prime wins Computervision DL March p. 95

Satellite loading era ends DL May p. 83 Sic transit gloria T1D1, as T-titles are transformed DL April p. 79

Squirrel sinks Nasdaq network DL Jan. p. 79

Tymnet sets management strategy DL May p. 82

User voices to be heard in ISDN implementations DL Feb. p. 80

When is a LAN? Confusion at AT&T, Wang DL June p. 84 Who to call? Hackerbusters DL May

p. 82

### DATA/VOICE INTEGRATION

New proposal extends the reach of metro area nets F Feb. p. 139 Small is beautiful: New T1 muxes stress savings NF Jan. p. 54

### DDP HARDWARE

IBM prepares a new distributed image D April p. 15

T1 technology transfer: IBM, Unisys, and their mux pals NF Jan. p. 51

### DDP NETWORKING

Haves: V.32 modems not for PCs D June p. 16

New pains, new gains: Distributed database solutions are on their way F March p. 149

Next-generation NOSs already are yielding practical benefits NF May p. 60 Shared data NS May p. 284

SPECIAL NEWS REPORT: Apples, and Unix, and DOS, oh my! NF Feb. p. 69

### DDP SOFTWARE

Distributed OSI NS March p. 340 File transfer, reformatting NS March

IBM prepares a new distributed image D April p. 15

New pains, new gains: Distributed database solutions are on their way F March p. 149

New software for distributing applications across mixed OSs NF March

Next-generation NOSs already are yielding practical benefits NF May p. 60

Sick of software? Network virus? Insurance won't help NF June p. 70

SPECIAL NEWS REPORT: Apples, and Unix, and DOS, oh my! NF Feb. p. 69

### DIGITAL SERVICES

and promises users fruit from ESF D April p. 15

45-Mbits/s multiplexer can create T3 nets with 28 T1 channels per node NP Nov. p. 229

Adapt protocol analyzers for T1 channel testing NP Jan. p. 232

Analyzer allows simultaneous testing of DS1 and DS3 NP June p. 248

AT&T completing first stage of ESF deployment D Jan. p. 15

AT&T readies new multiplexer service-for Tellabs users only . . . D April p. 15

Beating the backhoe: Users and carriers break new turf NF April p. 51 Carriers: Breaking up bandwidth is

easy to do NF Aug. p. 58 Combining CSU/DSU capabilities with

stat mux at 19.2 kbit/s NP July p. 196 CSU has a 4-kbit/s data link; uses the

Extended Superframe Format NP June p. 246

DDS's latest wrinkle: User diagnostics in a separate channel F Dec. p. 121

Dial-up desktop unit sends sync, async data to switched digital net NP May

Digital processor puts data and voice on one T1 transmission line NP Nov. p. 231

ESF making a hit in T1 diagnostics: new standard could make it bigger NF June p. 58

FCC frowning on customized BOC DS-3 rates W June p. 25

FCC launches review of GE tariff DL Feb. p. 80

FCC tightens screws on BOC's T1 access tariffs . . . W Nov. p. 25

Fiber glut hits AT&T: users get 25 percent break on T1 prices NF Dec. p. 54

- Economic newslette hinaton ne

How long should it take T1 lines to dry? W April p. 26

How to detect frame slips in voiceband PCM channels F Oct. p. 205 Infonet to sublet T1 services D Oct.

Is a private T1 network the right business decision? F July p. 116

'ISDN' now: Northwestern bank converts tail circuits to T1 lines NF Feb. p. 58

Networking for greater metropolitan areas F Feb. p. 114

PC board ups data rates to 64 kbit/sfor high-speed fax, Switched 56 NP Jan. p. 227

Something new: Intelligent DS-3 muxes chop bandwidth into usable chunks NF Dec. p. 49

Southeast: South Carolina rises to T1 TL May p. 43

Southeast: South Central. Sprint link up at 56 kbit/s TL June p. 45 Subrate data mux provides two ways

of accessing DDS NP April p. 216 Switched 56 finally poised to take off? TL March p. 45

T1 base plus X.25 support NS June

T1 mux handles eight trunk lines; targets low-volume sites NP March p. 300

T1 mux's options are software configurable via VT100 terminal NP March p. 307

T1 network design and planning made easier F Sept. p. 199

T1 networking node suits midsize user; packet net is low-cost NP March p. 304

T1 state of the art: Back to the future NF Dec. p. 49

T1 to ISDN: How to get there from here F Feb. p. 178

T1-compatible controller works with DEC VAX NP Feb. p. 202

Two test units measure T1 line performance NP Sept. p. 231

### DIGITIZED VOICE

Bridge integrates WANs and LANs; stat mux handles voice NP May

Digital processor puts data and voice on one T1 transmission line NP Nov.

Networking for greater metropolitan areas F Feb. p. 114

Speech-data mux yields communications grade voice at 9.6 kbit/s NP May p. 268

### **EDITORIAL VIEWPOINTS/EOT**

A magazine's changing of the guard E/ET June p. 13

As plain as the nose on your face E/ET Aug. p. 214

Cable competition: Opportunity to break the local choke hold E/ET Aug. p. 13 Calculating the business side of the

networking equation E/ET July p. 13 COS must act now to reaffirm its OSI role E/ET Feb. p. 13

Does every user have a Tinkertoy topology? E/ET March p. 360

Don't discourage innovation. Here's a plan E/ET Feb. p. 252

New Year's resolutions that are not meant to be broken E/ET Jan. p. 13 Notes out of Africa, via laptop E/ET

Dec. p. 200 Now, live via satellite, it's Isabella and Ferdinand E/ET Oct. p. 282

Of human garbage, videos, and proprietary network information E/ET June p. 282

Reflections on the future: The more things change . . . E/ET April p. 264 Round 2 in the great TCP/IP-versus-OSI debate E/ET Sept. p. 278

Strategic or not, BOC's can't price at what the market will bear E/ET Nov.

Surveys and tests: Is caveat emptor on

its way out? E/ET May p. 13 Sweet-sounding 'systems' and 'hybrid' hype E/ET Nov. p. 268 Tariff 15: The FCC takes a break E/ET

Oct. p. 13

The Emperor's new software E/ET July p. 226

TCP/IP: Should you feel guilty? A communications conundrum E/ET May p. 294 The worst virus that's spreading could be hysteria E/ET Dec. p. 13

True for '88? Here's what they anticipate! E/ET Jan. p. 266

User power translates into strategies for better networks E/ET March p. 13 Vigilance against new and old foes pays off in the long run E/ET April p. 13

### **ELECTRONIC FUNDS** TRANSFER

An '80s facelift for a '30s technology: Al comes to Telex NF May p. 51 Preparing for the new electronic funds transfer message standards F May p. 175

### ELECTRONIC MAIL/MESSAGE

A second pair of EIESs for electronic conferencing D May p. 16 Alternate E-mail NS Aug. p. 204 Anytime message NS June p. 268 Background mail NS Dec. p. 192 Birth of a standard: X.500 and its very human creators NF Nov. p. 67 Bulletin boards NS April p. 252 Bypassing bulletin boards NS April p. 246 Controlling EDI NS Sept. p. 267 E-mail NS Oct. p. 269 E-mail plus fax NS Nov. p. 256 E-mail to fax NS Oct. p. 268 E-mail, MS-DOS 4.0 NS Dec. p. 194 Easylink mail NS Nov. p. 258 EDI's next frontier. Sending designs and graphics along with the forms NF May p. 56

Electronic mail gate brings fax and telex to local area networks NP Sept.

How one firm created its own global electronic mail F June p. 167

Lawyers advise building legal protection into EDI networks NF Oct. p. 54 Lotus cum E-mail NS Jan. p. 255 Mail gateway NS May p. 287

Mail interface NS June p. 274 Mail security NS Feb. p. 240

Making ends meet: Interconnecting electronic mail networks F Sept.

Mid Atlantic: Bell Atlantic inks E-mail deal with Telenet TL Dec. p. 41 More mail NS May p. 284 More mail NS Oct. p. 269

NBS links TCP/IP and X.400 message

worlds D May p. 15

Pacific Bell tests electronic mail DL Sept. p. 85 PC + Mac mail NS April p.255 PC mail NS Jan. p. 254 PC-mail NS Sept. p. 271 PCs plug into Message Net NS Jan. p. 251

Remote mail NS Feb. p. 239 Southwest: Southwestern Bell trials EDI billing EN Aug. p. 45

Unix-mail NS Sept. p. 270

Upper layers: From bizarre to bazaar F Jan. p. 110

West Coast: Pac Bell plans coast-tocoast E-mail trails TL Oct. p. 41

### FACSIMILE

E-mail plus fax NS Nov. p. 256 E-mail to fax NS Oct. p. 268 Electronic mail gate brings fax and telex to local area networks NP Sept.

Facsimile cum modem runs on many operating systems at 2.4 kbit/s NP Nov. p. 228

Facsimile networking with personal computers: A shopper's guide F March p. 130

Fax network NS Jan. p. 259 FAX-ware NS May p. 284 One-for-all fax NS Feb. p. 241

PC facsimile board transmits files while doing conversions NP Jan. p. 230 PC-based facsimile board costs \$499;

image scanner, \$249 NP Jan. p. 231 PC-to-fax card lets users send and receive multiple facsimiles NP Nov. p. 231

PCs get two-way fax capability plus . . . NS Nov. p. 255

Portable fax machine weighs 11 pounds; has built-in phone NP Dec. p. 161 Strong growth seen for fax, technical computers EN Sept. p. 33

### FIBER OPTICS

A long road to haul for fiber optics W Jan. p. 25

Another fiber first: 16-Gbit/s time-division multiplexing D Jan. p. 15 Big Blue bit de-skewer beats bottle-

neck DL Oct. p. 84

Bringing fiber optic and twisted pair to AS/400s, System/3Xs NP Oct. p. 236 Building a private wide-area, fiber backbone network F April p. 175

Cable TV firm weighs big local fiber network DL Feb. p. 81

Does FCC's DS-3 ruling apply to 'dark fiber'? W Sept. p. 26

Ericsson claims first 'practical' optical switch DL. Aug. p. 83 FCC okays a second Atlantic fiber

cable W July p. 26 FDDI committee flips again in connec-

tor fray DL July p. 85

FDDI face-off: AT&T and IBM vs. the rest of the world D Feb. p. 16 FDDI: Getting to know the inside of the ring F March p. 185

Fiber glut hits AT&T: users get 25 percent break on T1 prices NF Dec. p. 54 Fiber is as cheap as copper in local

loop NF Sept. p. 66 Fiber optic Ethernet PC card offers secure linking of Tempest PCs NP Dec. p. 163

Fiber optic multiplexer packs 12 sync or async subchannels on a line NP Sept. p. 236

Fiber optics booming DL Aug. p. 83 Getting 64 channels at 19.2 kbit/s with a fiber optic mux NP Sept. p. 230

In optics, Japan has breadth, depth NF March p. 82

Justice backs PacTel on Pacific fiber optics W Dec. p. 25

Line of fiber optic products includes repeaters, transceivers NP June

Mid Atlantic: MAN trials to start soon in Philadelphia TL Nov. p. 41 Multiplexing fiber to boost bandwidth on

local area networks NP Oct. p. 242 Nynex gets another 'no'; PTAT to con-

tinue DL Sept. p. 85 Optical backbone bridge has linear bus

or ring topology NP Nov. p. 225 Pondering the private-to-public fiber connection: FDDI to Sonet NF May p. 68

Premises-wide cabling spec on the way D June p. 15

Putting fiber into the backbone campus network NP April p. 216

Short-haul mux for four or 32 coax outputs uses multimode fiber link NP July p. 198

Sonet standard set in spirited Seoul session D March p. 15

SPECIAL NEWS REPORT: Optical switches herald a new Age of Enlightenment NF March p. 81

Tiny transistor set to vie with optical switches DL May p. 82

Twisted-pair Ethernet LAN has a fiber optic, ring-type backbone NP June p. 229

Universal fiber (believe or not?) DL July

Vote and revote snarl FDDI's plug; Softs slash Hards NF April p. 68 Washington will get off fiber's back W March p. 26

### GRAPHICS

DEC graphics on PCs NS Nov. p. 257 EDI's next frontier: Sending designs and graphics along with the forms NF May p. 56

Flashing images across networks-a technology whose time is coming IW

Image-to-host NS June p. 269
Mainframe graphics NS Jan. p. 254
PS/2 graphics NS June p. 272
The shots seen round the world F Dec.
p. 94

Wang sees good business in imaging networks EN Sept. p. 33

### INDUSTRY ECONOMICS

... and can United afford it? EN Aug. p. 35

1987: The year when networking became part of the bottom line F Jan. p. 165

1988 market survey: LANs, T1 still strong; micros a surprise F Jan. p. 87 Allen-Bradley, DEC set automation pact DL Nov. p. 85

An upstart challenges Nielsen's dominance of television ratings IW April p. 95

Another merger fight looming? EN Oct. p. 33

At OSI Layer 2, the learning curve of bridges keeps rising NF Feb. p. 62 AT&T and C&P telco bid ISDN for

Treasury W Sept. p. 26 AT&T backs used PBX sales DL Dec. p. 67

AT&T Clever OEM or 'sugar daddy' of the industry? IW March p. 103

AT&T forms Archer, wins big contract DL Dec. p. 67

AT&T growth plans suspect EN Feb. p. 37

Behind the scenes of the great Unix revolt D June p. 16

Bellcore gets breather DL Nov. p. 85 Bellcore: Price caps will save consumers \$5 billion W Oct. p. 26

BOCs claim losses due to bypass W July p. 25

Business phone costs continue decline EN March p. 35

Can John Akers let others make decisions? DL March p. 94

Carrier's carrier expanding its network EN Jan. p. 35

Chrysler trusts GM for satellite link DL Nov. p. 85

Codex: Thar's gold in them T1 muxes D Aug. p. 16

Communications leads the pack EN June p. 35

Consultants: For better or worse, business is booming F Nov. p. 142

Cooking the books? Skeptic questions computer company's record IW Nov. p. 95

Data at 30 + percent in large organizations EN July p. 35

Data PBX sales up, but revenues down EN July p. 35

DEC becoming IBM systems integrator D July p. 15 DEC steers new course toward OSI net management NF Sept. p. 49
Despite smart generic chip sets, V.32
modems are still pricey NF Aug. p. 62
DG to join trend toward 'WHYSIS' D

July p. 16
Digital radio: When will it finally pay off?

IW Oct. p. 101
Distribution, service to rule PBX industry IW Sept. p. 99

Don't junk that PBX! Secondhand market gets AT&T, IBM blessing NF March p. 58

Europe is LAN of opportunity EN June p. 35

Exporters go for market share overseas EN Jan. p. 35

FCC should look at access fees, users say . . . W Jan. p. 26

Fiber is as cheap as copper in local loop NF Sept. p. 66

Fiber optics booming DL Aug. p. 83 Financial trading rooms: A technological stalemate, or is revolution afoot? IW Aug. p. 87

First big digital radio order EN Nov. p. 33

Former LAN giant Corvus bankrupt DL Aug. p. 82

Fujitsu takes over from GTE in PBXs EN Oct. p. 33

Go east, young man, go east EN Feb. p. 37

IBM bringing OSI packages to U. S. shores this year D Aug. p. 15

IBM toughens patent policy DL Aug. p. 82

In Sprints running out of gas . . . EN Aug. p. 35

Index bolts ahead in May EN Aug. p. 35 Index climbs a bit in August EN Nov. p. 33

Index continues up; PC market still hot EN Sept. p. 33

Index flat for October after strong September EN Jan. p. 35

Index flattens through the holidays EN March p. 35

Index follows economy—up EN July p. 35

Index jumps in November EN Feb. p. 37

Index slips in February EN May p. 35 Index slips in September, but still beats '87 EN Dec. p. 33

Index up from January 1987 EN April p. 35

Index up over '87, down from June; signals mixed EN Oct. p. 33 Infonet to sublet T1 services D Oct.

p. 15

It's been a very good year—to date EN Sept. p. 33 Making all the right connections at

Interface '88 F March p. 215 March index roars like a lion EN June p. 35 Merger game heats up in June EN July p. 35

Merger is the name of the game EN May p. 35

Micom to shrink itself? EN May p. 35 Midwest: IntraLATA competition in Michigan TL Jan. p. 43

More optimistic projections on other markets EN Dec. p. 33

Network management triple play: AT&T, Cincom and the RBOCs? D July p. 16

No synergy between mainframes and telephone lines EN Oct. p. 33

O.K. for AT&T and Telerate electronic publishing venture W Oct. p. 25 One down; more to go? EN March

Pac Bell attacks AT&T's ETN bargains W Sept. p. 25

Packets are hot tickets for some, but sticky wickets for others IW April p. 87

PC sales strong in July, but off June records EN Oct. p. 33

Printer becomes service bureau IW Nov. p. 89

PTT-Infonet deal offers glimpse of post-1992 VAN reality in Europe NF Sept. p. 60

RBOCs race for slice of European pie NF Sept. p. 64

Rebates from strategic pricing? Court could end FCC foot-dragging NF Sept. p. 58

Republic Telecom and Timeplex to expand ties D Aug. p. 16

Researchers upbeat about CAD/CAM EN Dec. p. 33

Restoring damaged switches, computers can make sense IW Feb. p. 89 Round 1 for price caps ends W Sept. p. 25

Running other firms' networks—a small, but coming business IW Feb. p. 95 Shining future for optical disks seen EN June p. 35

Siemens sets joint ventures DL July p. 85

Smart card surge may start DL Oct. p. 84

Spending plans up for 1988 EN March p. 35

Sprint almost breaks out the black ink EN Nov. p. 33

Stock Exchange helps its traders move faster EN Feb. p. 37

Strong growth seen for fax, technical computers EN Sept. p. 33

SynOptics is plugged on Wall Street D Sept. p. 16

T1 technology transfer: IBM, Unisys, and their mux pals NF Jan. p. 51 Telernatics T1 switch coming EN May

p. 35 Terminal firms end fight—all win in battle EN Nov. p. 33

Tester outfit wants to emulate Microsoft D Nov. p. 15

The roads back from network disasters IW Oct. p. 91

Triumvirate nets New York contract EN Nov. p. 33

Union sees breakup of the BOCs W July p. 26

US Sprint's microwave not all up in smoke EN July p. 35

Users tell what they want in ISDN DL. Nov. p. 85

Valley start-ups plan awesome LAN servers NF Nov. p. 60 Videotex reheats in U. S.; Canada DL

July p. 84 Wang sees good business in imaging

networks EN Sept. p. 33
West Coast: San Francisco gets a crack
at videotex too TL Nov. p. 41

What's a government contract worth? EN Dec. p. 33

When will the dynasty end? EN Feb. p. 37

X/Open not very open about internal investigation D Nov. p. 15

Xerox slips out of Al DL Oct. p. 85 Yet another Sprint management shuffle EN Aug. p. 35

You can't duck the taxman by leasing W March p. 25

### INTERCONNECTION/ INTERFACING

9370 linking NS July p. 214
A state builds a roadway between DEC and IBM F June p. 186

Announcement of LAN gear highlights four gateways plus bridge NP Oct. p. 232

AT&T's new PRI: Not an ISDN service NF June p. 68

Board plus software connects PS/2s with X.25 and DDN NP July p. 197 Bridge has throughput of 1,500

packets/sec; retiming is automatic NP Jan. p. 232

Bridge links Ethernet over an IEEE 802.4 broadband backbone NP Jan. p. 233 Bridge links Token Ring to remote

LANs; forwards 5,000 frames/second NP Feb. p. 195

'Brouters' mix functions, link LANs and WANs NP April p. 212

Channel-attached gateway links IBM hosts to Decnet NP Feb. p. 210

Channel-to-channel unit links remote hosts at 64 kbit/s NP Aug. p. 183 Collocation issue heating up, likely to

stall ONA progress NF March p. 70 Committee passes V.120, new ISDN rate-adaptation standard D June p. 15

Connect IBM PCs to the DEC VAX via emulation NP Jan. p. 232 Connecting remote local area networks with a T1 bridge NP July p. 195

Dial-up desktop unit sends sync, async data to switched digital net NP May p. 259

Enhanced PC links NS July p. 218 Ethernet bridge uses Spanning Tree Protocol to link remote LANs NP Sept. p. 234

Europe's SPAG and U. S.'s COS fight profiles of incompatibility NF Jan. p. 64 How long should it take T1 lines to dry?

W April p. 26

How one firm created its own global electronic mail F June p. 167 Interconnect unit lets 16 CPUs chat at

channel speeds NP April p. 213 Interfaces of today, interfaces of tomorrow DL Dec. p. 66

ISDN interworking trials postponed until next year D July p. 15

LAN bridge connects Ethernet subnetworks to broadband backbone NP May p. 261

LAN bridge with modern links Ethernet and token ring nets NP Feb. p. 196 LAN gateways-NS Nov. p. 261

Learning bridge helps bring Ethernet to FDDI NP Feb. p. 198

Link remote IBM hosts at 3 Mbyte/s via full-duplex lines NP Feb. p. 195 Linking dissimilar devices NS Feb. p. 230

Linking Macintosh IIs to IBM or compatible mainframe computers NP Jan. p. 235

Linking Macs, PCs, and hosts NS June p. 267

Linking remote and local hosts at channel speeds NP Nov. p. 226

MAC-layer bridge for Ethernet uses subnetworking NP Nov. p. 229

Making ends meet: Interconnecting electronic mail networks F Sept. p. 128

Making the most of the versatile breakout box F March p. 167

Managing bridges NS July p. 216 Modem-pool users may lose their free ride on tip and ring connections NF April p. 56

More connections NS April p. 253 NBS links TCP/IP and X.400 message worlds D May p. 15

OSI and TCP/IP protocol processors support Netbios NP July p. 200

PC users view data and control signals of RS-232-C links NP Dec. p. 166 PC-compatible adapter card and soft-

ware support TCP/IP NP June p. 236 Pondering the private-to-public fiber

Pondering the private-to-public fiber connection: FDDI to Sonet NF May p. 68

Radio transfers data at 19.2 kbit/s from host to remote gear NP Feb. p. 196 RBOCs race to fill LAN-to-LAN connection needs . . . D Oct. p. 15 Remote LAN bridge links two nets via a

wide area network NP Oct. p. 242 Server for AppleTalk has dial-in access, serial communications NP Oct. p. 243

SNA meets X.25 NS Feb. p. 242 Spanning SNA NS May p. 288 SPECIAL NEWS REPORT: Apples, and

Unix, and DOS, oh my! NF Feb. p. 69
Standard bridges, MANs, routers: Tools
for linked LANs NF Oct. p. 49

Switched 56 finally poised to take off? TL March p. 45

The LAN-to-T1 connection: Managing subrate bandwidth NF Aug. p. 55

The SNA-to-ISDN connection: Can IBM make it work? NF July p. 78

Two committees reach accord on broadband ISDN/MAN format D Dec. p. 16

Unix plus DOS NS Nov. p. 261
VTP gateways may be needed to link
TCP/IP with OSI nets D July p. 16
Windows across the network: How Sun

and Microsoft differ NF July p. 72 X.25 and SDLC gates supports 32 LU sessions on Netbios LANs NP March

X/Open documents detail future of Unixto-Unix communications NF Nov. p. 72

### ISDN

A new Big Blue ISDN testing tool D April p. 16

AT&T and C&P telco bid ISDN for Treasury W Sept. p. 26

AT&T's new PRI: Not an ISDN service NF June p. 68

Committee passes V.120, new ISDN rate-adaptation standard D June p. 15

Europe moving rapidly toward international ISDN service D May p. 15

Getting multiple basic rate interfaces from a primary rate interface NP Sept. p. 224

How packet-mode transmission services will evolve in ISDN F April p. 201 HP to unveil ISDN test equipment D

Sept. p. 15 ICL bets big on ISDN workstation NF July p. 64

July p. 64 In with the new: ISDN spawns own test

gear market IW Sept. p. 91
Intel looks toward ISDN for its voice and
data network F.Jan. p. 149

data network F Jan. p. 149 ISDN interworking trials postponed until next year D July p. 15

'ISDN' now: Northwestern bank converts tail circuits to T1 lines NF Feb. p. 58

ISDN numbering plan: If it ain't broke, don't fix it NF Oct. p. 68 LAN bridge connects via either ISDN or

analog lines NP April p. 219

Mac's big ISDN choices: Deal or tariff, coax or primary D June p. 15

Midwest: Doctors targeted for ISDN services TL Oct. p. 41

Modern maker goes digital with an ISDN terminal adapter NP Nov. p. 224 National incompatibilities threaten Europe's ISDN lead NF Aug. p. 64

Patch panels support eight-lead RJ-45 plugs, migration to ISDN NP Nov. p. 234

SPECIAL NEWS REPORT: Will the local loop choke ISDN? NF Oct. p. 73

T1 to ISDN: How to get there from here F Feb. p. 178

Test reports range from DS-3 diagnostics to B- and D-channel stats NP Dec. p. 161

The SNA-to-ISDN connection: Can IBM make it work? NF July p. 78

They've got your number in AT&T's first primary-rate test D Feb. p. 15

Two committees reach accord on broadband ISDN/MAN format D Dec. p. 16

User voices to be heard in ISDN implementations DL Feb. p. 80

Users outline needed ISDN improvements D Nov. p. 16

Users tell what they want in ISDN DL. Nov. p. 85

What ISDN brings to the office of the future F Aug. p. 155

### **LOCAL AREA NETWORKS**

... and distances its new Token Ring from T1's D Dec. p. 15 ... LAN ability NS Nov. p. 255

10-port server supports OSI and TCP/IP; features local booting NP Sept. p. 228 12 users who have no LAN share a PC

NS Dec. p. 191 1988 market survey: LANs, T1 still strong; micros a surprise F Jan. p. 87

A MAP reality check NF May p. 66 A token ring that operates faster than Token Ring NP Feb. p. 203

Announcement of LAN gear highlights four gateways plus bridge NP Oct. p. 232

Another use for the Token Ring: Speeding slow 3270 response times NF Oct. p. 70

Application server lets users run PCware from VAX terminals NP April p. 220

At OSI Layer 2, the learning curve of bridges keeps rising NF Feb. p. 62

Baseband multiport transceiver creates Ethernet subnetworks NP March p. 312

Board gives servers six ports and handles 30 serial lines NP March p. 312

Board-level TCP/IP server gives encrypted terminal emulation NP April p. 216 Bridge cum router unveiled; ISO gate spans a product line NP May p. 268

Bridge has throughput of 1,500 packets/sec; retiming is automatic NP Jan. p. 232

Bridge integrates WANs and LANs; stat mux handles voice NP May p. 263

Bridge links Ethernet over an IEEE 802.4 broadband backbone NP Jan. p. 233 Bridge links Ethernets at 45 Mbit/s via

fiber or microwave NP Nov. p. 223 Bridge links Token Ring to remote LANs; forwards 5,000 frames/second NP Feb. p. 195

'Brouters' mix functions, link LANs and WANs NP April p. 212

Communications server extends network resources NP Jan. p. 231 Concentrators extend the reach of

Ethernet networks NP Aug. p. 178 Connecting remote local area networks with a T1 bridge NP July p. 195

Controller lets PCs act like workstations on Netware LANs NP Oct. p. 240 Diskless LAN workstation for NetWare

Diskless LAN workstation for NetWard boots DOS from shared server NP July p. 193

DOS units talk with OS/2 LAN Manager via data-link controller NP Aug. p. 180

Electronic mail gate brings fax and telex to local area networks NP Sept. p. 228

Embracing Token Ring NS Nov. p. 259 Ethernet adapter card gets a PS/2 Microchannel NP June p. 235

Ethernet bridge uses Spanning Tree Protocol to link remote LANs NP Sept. p. 234

Ethernet controller, line of desktop LAN gear are unveiled NP Feb. p. 204

Ethernet interface extends networking to Macintosh IIs NP Feb. p. 210

Ethernet terminal server connects eight devices using TCP/IP NP Aug. p. 182 Ethernet terminal server is compatible

with the LAT protocol NP April p. 225 Ethernet-to-Macintosh gateway can start and configure itself on LAN NP Oct. p. 238

Europe is LAN of opportunity EN June p. 35

European testers make MAP conformance an ENE success NF July p. 58 Extending LANs with mixed cabling and

Extending LANs with mixed cabling multiprotocols NP April p. 224

Fairness in LANs: Is the performance price worth it? F Feb. p. 151 Fault intolerant: Running a nuclear

power plant's LAN F Dec. p. 143 FDDI committee flips again in connector fray DL July p. 85

FDDI face-off: AT&T and IBM vs. the rest of the world D Feb. p. 16 FDDI: Getting to know the inside of the

ring F March p. 185
 Fiber optic Ethernet PC card offers

secure linking of Tempest PCs NP Dec. p. 163

Flexibility or heresy? The struggle to redraw MAP NF Nov. p. 49 For TCP/IP LANs NS Feb. p. 241 Former LAN giant Corvus bankrupt DL

Aug. p. 82 Forward to the 1-Gbit/s LAN: Not data rate, throughput D Dec. p. 16

Four-port Archet LAN controller lets users build stars NP Dec. p. 168
Gauging LAN hardware reliability NS

Dec. p. 191 Hands-on guide to broadband

Hands-on guide to broadband MAP/TOP D March p. 16

How do today's broadband LANs compare to Ethernet? F July p. 169

IBM separates LAN Server from Microsoft's LAN Manager...D Dec. p. 15

Interactive processing gets bigger disk drive plus Ethernet support NP April p. 225

Interface adapters link PCs, PS/2s to AppleTalk network NP April p. 220 InterLAN to link Netware and LAN Manager D Nov. p. 15

LAN bridge connects Ethernet subnetworks to broadband backbone NP May p. 261

LAN bridge connects via either ISDN or analog lines NP April p. 219

LAN bridge links Token Ring, Ethernet on 30-kbit/s dial lines NP Oct. p. 227

LAN bridge with modern links Ethernet and token ring nets NP Feb. p. 196 LAN gateways NS Nov. p. 261

LAN Lab launches self with seal DL Dec. p. 66

LAN protocol analyzer supports Starlan and Ethernet networks NP Oct. p. 244

LAN server targets workgroups of 8 to 30 microcomputer users NP Dec. p. 161

LAN-ware NS Sept. p. 259 LAN-to-LAN NS May p. 286

LANs link past with future at the Smithsonian IW March p. 111

LANs plus OSI NS Sept. p. 265 LANs use 80386-based server; have Xenix operating system NP Jan. p. 230

Learning bridge helps bring Ethernet to FDDI NP Feb. p. 198

Line of fiber optic products includes repeaters, transceivers NP June p. 230

Linking Crays, IBMs, and multivendor minis to Ethernet stations NP May p. 260

MAC-layer bridge for Ethernet uses subnetworking NP Nov. p. 229 MAC-layer bridge runs on PCs; has a

two-port Ethernet card NP May p. 269 MAP 3.0 support NS June p. 268 More TCP/IP links NS April p. 246 Moves afoot to fill GM, Boeing shoes at MAP/TOP users' groups NF May p. 64 Multi-Netware NS Feb. p. 232 Multiplexing fiber to boost bandwidth on local area networks NP Oct. p. 242 Multistation access unit with eight ports

for Token Ring links NP Feb. p. 210 Multistation access unit works with Token Ring networks NP Oct. p. 243 Netware LU6.2 NS April p. 254

Networking engineers—without busting the budget IW Aug. p. 95

New offerings unite PCs and LANs with a management package NP March p. 310

Optical backbone bridge has linear bus or ring topology NP Nov. p. 225 PC local area network costs \$199 per

node NP Jan. p. 228 PC-based network management station gets XNS capability NP Feb. p. 207

PCs get Ethernet connectivity and work with AppleTalk NP Aug. p. 180 PCs on AppleTalk NS Oct. p. 268

PCs on LANs: Dumb terminals or application team players? F Aug. p. 125 Phone wire loses its wimp image in highspeed Ethernet LANs F Dec. p. 71

Preventing data theft on broadband local area networks F May p. 127 RBOCs race to fill LAN-to-LAN connec-

tion needs . . . D Oct. p. 15 Remote Ethernet NS Sept. p. 264 Remote LAN bridge links two nets via a wide area network NP Oct. p. 242

8

Remote Procedure Call compilers may open PC-LAN application floodgates NF Nov. p. 56

Securing LANs NS June p. 270 Select the right LAN applications for the right job F July p. 143

Sept. 21 is the day for speedier IBM Token Ring D Aug. p. 15

Server for AppleTalk has dial-in access, serial communications NP Oct. p. 243 Single-board interface links Ethernet and VMEbus hosts NP Oct. p. 234

SPECIAL NEWS REPORT: On scale of 1 to 10-a litmus test of PC LANs NF June p. 75

SPECIAL NEWS REPORT: Closing the supercomputer network bandwidth

gap NF Sept. p. 71 Spring intro slated for IBM's 16-Mbit/s

ring; 100 Mbit/s looms D Feb. p. 16 Standard bridges, MANs, routers: Tools for linked LANs NF Oct. p. 49 TCP/IP support NS Jan. p. 252 The incredible shrinking Mini-MAP NF

Nov. p. 50 The LAN-to-T1 connection: Managing

subrate bandwidth NF Aug. p. 55 Too many LAN network 'standards'? CAS joins in the confusion NF Oct. Twisted-pair Ethernet LAN has a fiber optic, ring-type backbone NP June p. 229

Under the Big TOP at Enterprise '88: TOP 3.0's debut F April p. 155

Use desktop computers and peripherals on AppleTalk networks NP March p. 302

Users rate their LANs F June p. 122 Valley start-ups plan awesome LAN servers NF Nov. p. 60

VAX as server NS Feb. p. 238 VAXs and LANs NS Jan. p. 252

Vendors plot ways to give LAN users access to multiple protocol stacks NF Sent n 54

Vote and revote snarl FDDI's plug; Softs slash Hards NF April p. 68

X.25 and SDLC gates supports 32 LU sessions on Netbios LANs NP March p. 296

Editorial viewpoint/EOT
 Economic newsletter

### MAINFRAMES

9370 linking NS July p. 214 APPN doesn't spell O-P-E-N D May

Channel-attached gateway links IBM hosts to Decnet NP Feb. p. 210 Channel-to-channel unit links remote hosts at 64 kbit/s NP Aug. p. 183

Communications processor links Crays to TCP/IP networks NP July p. 193 Couldn't IBM make its own supercomputer? DL Feb. p.81

Host links NS June p. 276 Host-ware NS July p. 217

Interconnect unit lets 16 CPUs chat at channel speeds NP April p. 213

Link remote IBM hosts at 3 Mbyte/s via full-duplex lines NP Feb. p. 195

Linking Crays, IBMs, and multivendor minis to Ethernet stations NP May

Linking remote and local hosts at channel speeds NP Nov. p. 226 Local and remote gateways connect

micros to hosts NP Dec. p. 166 Mainframe graphics NS Jan. p. 254 Phoning the host NS Jan. p. 255 No synergy between mainframes and

telephone lines EN Oct. p. 33 PC networks reach out to meet the host NS Aug. p. 201

Peripheral gateways take the software burden off the host NP Dec. p. 159 Processor plus VM/XA allows 5,500 concurrent Profs users per system

NP Sept. p. 230 Remote terminal server connects 'ASCIIs' to host NP July p. 200

Security spans MVS, VAX/VMS networks NS Sept. p. 259

Six-member family of mid-range mainframes debuts NP May p. 262

SPECIAL NEWS REPORT: Closing the supercomputer network bandwidth gap NF Sept. p. 71

Supercomputer is based on a new 64bit architecture NP May p. 265 VTAM versions NS April p. 251

### MANAGEMENT/PERSONNEL

Consultants: For better or worse, business is booming F Nov. p. 142 Lease-to-hire: One way to find network personnel F Sept. p. 169 Minimize risk: Pick the right productplus the right vendor F July p. 149

### MESSAGE SWITCHING

An '80s facelift for a '30s technology: Al comes to Telex NF May p. 51

### MICROCOMPUTERS

Bisync on PS/2s NS Feb. p. 239 Board plus software connects PS/2s with X.25 and DDN NP July p. 197 Boosting DOS NS Aug. p. 201 Change a single-user PC into a device that can share with many NP Jan. p. 232

Communications adapter for IBM PCs links to 3274, 3174 NP Feb. p. 200 Communications board for IBM PS/2s has two serial interfaces NP May p. 264

Controller lets PCs act like workstations on Netware LANs NP Oct. p. 240 Create a port-sharing network for eight PCs or 3270 terminals NP Aug. p. 186

Disk-less NS Feb. p. 242

Diskless LAN workstation for NetWare boots DOS from shared server NP July p. 193

DOS for many NS July p. 214 DOS units talk with OS/2 LAN Manager via data-link controller NP Aug. p. 180 Enhanced PC links NS July p. 218

Ethernet adapter card gets a PS/2 Microchannel NP June p. 235 Ethernet interface extends networking

to Macintosh Ils NP Feb. p. 210 Ethernet-to-Macintosh gateway can start and configure itself on LAN NP Oct. p. 238

Facsimile networking with personal com-

puters: A shopper's guide F March p. 130 For OS/2 NS April p. 251 Free Mac-ware NS Aug. p. 204 Group-ware: PCs + Macs NS April p. 246 Hand-held units still strong EN April IBM puts strange 'hex' on PS/2 async ports D Jan. p. 16 Integrated PCs NS Sept. p. 259 Interface adapters link PCs, PS/2s to AppleTalk network NP April p. 220 Internal 2.4-kbit/s modern fits IBM PS/2 models 50, 60, 80 NP Jan. p. 234 Internal modern has data compression: works on IBM PS/2s NP Feb. p. 209 Internal PC modern runs full-duplex dialup data at 9.6 kbit/s NP Feb. p. 207 LAN server targets workgroups of 8 to 30 microcomputer users NP Dec. p. 161 LAT for PCs NS July p. 218 Link eight personal computers and two printers without a LAN NP Jan. p. 234 Linking Macintosh IIs to IBM or compatible mainframe computers NP Jan. p. 235 Linking Macs, PCs, and hosts NS June p. 267 Linking PS/2s NS May p. 287 Local and remote gateways connect micros to hosts NP Dec. p. 166 MAC sessions NS Dec. p. 194 MAC-layer bridge runs on PCs; has a two-port Ethernet card NP May p. 269 Mac-to-VAX NS May p. 286 Mac-ware NS Feb. p. 231 Making PC software work with digital PBXs F Oct. p. 128 Managing PCs NS May p. 285 Managing printers in a network of personal computers NP Feb. p. 210 Modular I/O board lets 32 users work on a single IBM PS/2 NP April p. 216 MS-DOS for many NS Dec. p. 195 MS-DOS to Ultrix NS Aug. p. 202 Multi-Netware NS Feb. p. 232 NEC's mind-like micro puts brain on board DL July p. 84 Networking OS/2 NS May p. 282 Networking PCs NS July p. 217 Networking PCs NS Sept. p. 268 New offerings unite PCs and LANs with a management package NP March p. 310

p. 231 p. 251 p. 244 p. 232 boards NP Aug. p. 177 Serving MACs NS Sept. p. 260

support multiple OSI protocols NP Sept. p. 229 PC exchange NS June p. 272 PC facsimile board transmits files while doing conversions NP Jan. p. 230 PC local area network costs \$199 per node NP Jan. p. 228 PC mail NS Jan. p. 254 PC networks reach out to meet the host NS Aug. p. 201 PC share-ware NS Oct. p. 270 PC users view data and control signals of RS-232-C links NP Dec. p. 166 PC-based equipment manages multiplexers as well as moderns NP June PC-based facsimile board costs \$499; image scanner, \$249 NP Jan. p. 231 PC-compatible adapter card and software support TCP/IP NP June p. 236 PC-mail NS Sept. p. 271 PC-to-fax card lets users send and receive multiple facsimile NP Nov. PC-to-host NS June p. 276 PC-ware NS Feb. p. 237 PC-ware NS March p. 336 PCs get Ethernet connectivity and work with AppleTalk NP Aug. p. 180 PCs get SNA, BSC, X.25, and DFT—at the same time NS Oct. p. 263 PCs get two-way fax capability plus ... NS Nov. p. 255 PCs on AppleTalk NS Oct. p. 268 PCs on LANs: Dumb terminals or application team players? F Aug. p. 125 PCs plug into Message Net NS Jan. Personal computer for MS-DOS users has seven expansion slots NP June Personal computer has 3.5-inch floppy for both MS-DOS and Apple II NP Nov. p. 234 Personal computer has five slots compatible with Microchannel NP June Personal computer is based on MS-DOS; uses Unix applications NP May PS/2 dial-up modern card transfers data on the entire bandwidth NP Sept. PS/2 support grows . . . NS Jan. p. 257 Remote Procedure Call compilers may open PC-LAN application floodgates NF Nov. p. 56 Server gives VAX users access to PC world; extra slots handle any PC

SPECIAL NEWS REPORT: On scale of

SPECIAL NEWS REPORT: Apples, and

Unix, and DOS, oh my! NF Feb. p. 69

June p. 75

1 to 10-a litmus test of PC LANs NF

Talk to eight PS/2s NS May p. 284 The 4.0 that Microsoft forgot DL Sept. p. 84 Turn an IBM AT into a file server for multiple PCs NP Feb. p. 210 Use desktop computers and peripherals on AppleTalk networks NP March p. 302 VAX with Macs NS April p. 252 X.25 board lets PCs access packetswitched networks at 19.2 kbit/s NP Sept. p. 226

### MICROPROCESSORS

LANs use 80386-based server; have Xenix operating system NP Jan. p. 230 Letting coprocessor access the disk drive frees the PC's CPU NP Jan. p. 229 PC board plus software lets Macintosh Ils connect with X.25 networks NP Dec. p. 159 Tiny transistor set to vie with optical switches DL May p. 82

### MICROWAVE, LASER

INFRARED Airwaves access coming from bank trial in Buffalo D Feb. p. 16 Bridge links Ethernets at 45 Mbit/s via fiber or microwave NP Nov. p. 223 FCC offers BETR idea for data to remote areas W Feb. p. 26 First big digital radio order EN Nov. p. 33 Five years after deregulation, FM subcarrier comes of age F May p. 159 Formula may let users mine RF 'pockets' DL Nov. p. 84 Market bearish, Merrill gets bypass bullish DL Feb. p. 80 Radio transfers data at 19.2 kbit/s from host to remote gear NP Feb. p. 196 U. K. to try radio for delivery of broadband interactive services D'Nov. p. 16 US Sprint's microwave not all up in smoke EN July p. 35 User study: More corporations turned on by microwave gear NF April p. 76

### MINICOMPUTERS

Application server lets users run PC-ware from VAX terminals NP April p. 220 Behind the scenes of the great Unix revolt D June p. 16 Bringing fiber optic and twisted pair to AS/400s, System/3Xs NP Oct. p. 236 Change a single-user PC into a device that can share with many NP Jan. Connect IBM PCs to the DEC VAX via emulation NP Jan. p. 232 DEC-IBM link NS Oct. p. 268 Hook remote twinaxial gear to IBM minis for \$1,995 per link NP May p. 259 Including VMS NS March p. 339

PC + Mac mail NS April p.255

On deck: A PC DACS NF Dec. p. 51

OS/2's second coming to make PC a

PAD power at the PC: Adding zip to the

packet-switching network NF Oct.

PC controllers for wide area networks

OS/2 machines NS Sept. p. 267

OS/2 support NS April p. 256

mini? D Jan. p. 16

p. 64

Management on Apollo NS April p. 257 Managing VAX NS May p. 286 Multiuser boards off-load Unix/Xenix processors NP April p. 219

Multiuser machine runs Unix; supports up to 32 users NP April p. 222

NCR family features networking interfaces; clusters 4,000 terminals NP May p. 262

OS/2's second coming to make PC a mini? D Jan. p. 16

Personal computer is based on MS-DOS; uses Unix applications NP May p. 266

Server gives VAX users access to PC world; extra slots handle any PC boards NP Aug. p. 177

SPECIAL NEWS REPORT: Panning for gold in IBM's new Silvertake mini NF Aug. p. 71

Spreading Unix NS Sept. p. 260 System/38-ware NS Jan. p. 252 T1-compatible controller works with

DEC VAX NP Feb. p. 202 Talking to Silvertake NS Sept. p. 268 To VAX at 56 kbit/s NS Sept. p. 266

Unix power NS July p. 215 Unix-mail NS Sept. p. 270

V.32 modem on a single board; includes MNP Class 5 error correction NP March p. 295

VAX as server NS Feb. p. 238

VAX communications server supports

TCP/IP; has 120 ports NP Feb. p. 205

VAX with Macs NS April p. 252

VAX with Macs NS April p. 252 VAXs and LANs NS Jan. p. 252 Widening Decnet NS July p. 216

X/Open documents detail future of Unixto-Unix communications NF Nov. p. 72

### MISCELLANEOUS

AT&T internal study: Does Bell Labs measure up? D Aug. p. 15

Better than baluns? AT&T claims so for new transient protector NF Aug. p. 68 Commerce looks to the 21st century W Jan. p. 26

Data Communications Glossary F March p. 229

Data Communications Index 1987 F Jan. p. 177

Data Communications Mid-1988 index F July p. 181

DEC tunes out noise DL July p. 84
Making all the right connections at Interface '88 F March p. 215

Much to gain from V.42 standard, but be sure to check the fine print NF July p. 74

UPS gear breaks out of the control room to join the peripherals NP July p. 199

### MODEMS

\$995 buys PC-based V.32 modern with MNP Level 15 NP Oct. p. 227 1.2- and 2.4-kbit/s modems are field upgradable to V.32 NP Oct. p. 228 14.4-kbit/s unit pumps full-duplex sync on leased or dial-up lines NP March

p. 298

7.2-kbit/s dial-up uses MNP Class 7 error correction NP March p. 302 Board boosts data compression for

high-speed modems NP Nov. p. 225 Breaking the throughput barrier: Which high-speed modems test best F May p. 70

CCTT rejects both MNP and ACT for compression standard D Dec. p. 15 Compression scheme squeezes price, max performance from PC modems

NF March p. 66
Data compression boosts throughput of V.22bis moderns NP Dec. p. 163
Despite smart generic chip sets, V.32

modems are still pricey NF Aug. p. 62

Dial-up modem supports SNA/SDLC at 19.2 kbit/s NP July p. 195 Facsimile cum modem runs on many

operating systems at 2.4 kbit/s NP Nov. p. 228

Falling back on V.32 D Sept. p. 15
Family of network management modems is announced NP Dec. p. 162
Full-duplex, 9.6-kbit/s plug-in modem has async, sync autodialers NP July

p. 196 Hayes: V.32 moderns not for PCs D

June p. 16 Hope springs eternal for asymmetrical modern standard D June p. 16

IBM puts strange 'hex' on PS/2 async ports D Jan. p. 16

Integrated modern with X.25 PAD pumps over leased or dial-up lines NP Feb. p. 201

Internal 2.4-kbit/s modern fits IBM PS/2 models 50, 60, 80 NP Jan. p. 234

Internal modern has data compression; works on IBM PS/2s NP Feb. p. 209 Internal PC modern runs full-dupiex dial-

up data at 9.6 kbit/s NP Feb. p. 207 Limited-distance modern adds forward

error correction NP July p. 194 Marine modern monitored Stars & Stripes DL Oct. p. 85

Modern has optional PAD, pumps 2.4 kbit/s half or full duplex NP Jan. p. 233

Modern maker goes digital with an ISDN terminal adapter NP Nov. p. 224

Modem supports four CPU applications on one multipoint line NP Dec. p. 164 Modem-based network management

works on leased lines NP Sept. p. 223 Modern-pool users may lose their free ride on tip and ring connections NF April p. 56

Muxes, modems, and long-distance terminal emulation NP Feb. p. 206 New modern test standard hailed, but some say it's not tough enough NF Oct. p. 60

Privacy beep may bollix up modern links W Feb. p. 25

PS/2 dial-up modern card transfers data on the entire bandwidth NP Sept. p. 232

Pushing dial-up 'protocol' modems to 38.4 kbit/s NP June p. 229

Report card's out: Modern grades are generally high F Oct. p. 119 Sharing moderns NS April p. 256

Short-haul line driver runs at 19.2 kbit/s over twisted pair NP Oct. p. 230

Sync 19.2-kbit/s modern for leased lines boasts 'fault tolerance' NP June p. 240

Tailgating: A dirty little network security problem NF March p. 54

Two new modems announced; prices cut on two existing models NP Feb. p. 199

Using a.c. outlets to build networks at 19.2 kbit/s NP Oct. p. 232

V.25bis support NS July p. 216
V.32 modern includes MNP Level 5 plus downward compatibility NP Dec. p. 166

V.32 modem works on leased or dial-up lines; costs \$1,999 NP Sept. p. 234

V.32 modern, network management, and async tester unveiled NP March p. 313

V.32 modems are breaking through the echo barrier F April p. 187 Who sets the standards: Microcom goes to the head of the Class IW

# June p. 103 MULTIPLEXING

45-Mbits/s multiplexer can create T3 nets with 28 T1 channels per node NP Nov. p. 229

Another fiber first: 16-Gbit/s time-division multiplexing D Jan. p. 15

AT&T readies new multiplexer service for Tellabs users only . . . D April p. 15 Bridge integrates WANs and LANs; stat mux handles voice NP May p. 263

Combining CSU/DSU capabilities with stat mux at 19.2 kbit/s NP July p. 196 Combining statistical time-division mux

with X.25 capability NP Oct. p. 228
Fiber optic multiplexer packs 12 sync or

async subchannels on a line NP Sept. p. 236

Getting 64 channels at 19.2 kbit/s with a fiber optic mux NP Sept. p. 230

Multiplexer supports 56 channels; aggregate rates to 256 kbit/s NP March p. 314

Multiplexer targets niche application: IBM 3X74 controllers NP Jan. p. 231 Muxes, modems, and long-distance terminal emulation NP Feb. p. 206 On dack: A PC DACS NF Dec. p. 51 Point-to-point mux supports four or eight asynchronous channels NP Nov. p. 232

Short-haul mux for four or 32 coax outputs uses multimode fiber link NP July p. 198

Small is beautiful: New T1 muxes stress savings NF Jan. p. 54

Something new: Intelligent DS-3 muxes chop bandwidth into usable chunks NF Dec. p. 49

Something old: Data PBX technology brings 'user-initiated switching' to T1 muxes NF Dec. p. 49

Speech-data mux yields communications grade voice at 9.6 kbit/s NP May p. 268

Stat mux offers eight-port switching at the link level NP June p. 232

Statistical multiplexer and communications processor are unveiled NP June p.233

Statistical mux has disk-based architecture NP Oct. p. 232

Subrate data mux provides two ways of accessing DDS NP April p. 216

T1 mux handles eight trunk lines; targets low-volume sites NP March p. 300

T1 mux's options are softwareconfigurable via VT100 terminal NP March p. 307

T1 muxes in state of flux over bringing ESF to users NF June p. 62

T1 state of the art: Back to the future NF Dec. p. 49

Timeplex rules T1 schoolyard—but Codex gets better grades F Nov. p. 113 Tiny stat mux can handle four terminals at up to 19.2 kbit/s NP Nov. p. 232

Using a digital cross-connect as the hub in a private network F Oct. p. 161

### **NETWORK ARCHITECTURE**

A network architecture for retail bank networks F Oct. p. 173 A user's guide to network design tools F

April p. 114 Designing gateways into metropolitan

Designing gateways into metropolitan area networks F Oct. p. 191

Digital signaling: Which techniques are best—and why it matter to you F Nov. p. 165

From TOP (3.0) to bottom: Architectural close-up F May p. 237

GE seeks swift computer-linking network D March p. 16

How do today's broadband LANs compare to Ethernet? F July p. 169

How to grow a world-class X.25 network F May p. 193

LANs link past with future at the Smithsonian IW March p. 111 Networking for greater metropolitan ar-

eas F Feb. p. 114 New proposal extends the reach of metro area nets F Feb. p. 139
The formula for network immortality F
Aug. p. 112

### NETWORK DESIGN/IMPLEMENTATION

A user's guide to network design tools F April p. 114

AT&T completing first stage of ESF deployment D Jan. p. 15

Building a private wide area, fiber backbone network F April p. 175 Coming soon: A cabling standard for

buildings F Aug. p. 113
Designing gateways into metropolitan area networks F Oct. p. 191

Designing network control centers for greater productivity F April p. 138

Digital signaling: Which techniques are best—and why it matter to you F Nov. p. 165

Don't just guess: How to figure delays in private packet F March p. 197

Fairness in LANs: Is the performance price worth it? F Feb. p. 151

Five years after deregulation, FM subcarrier comes of age F May p. 159

Forward to the 1-Gbit/s LAN: Not data rate, throughput D Dec. p. 16

Four-port Arcnet LAN controller lets users build stars NP Dec. p. 168

GE seeks swift computer-linking network D March p. 16

Is your packet network a 'model' of response-time efficiency? F May p. 139

Looking ahead: Network planning for the 1990s F Feb. p. 185

Moving to new quarters? Don't trip over the cabling issue F Nov. p. 205 Patch panels support eight-lead RJ-45

Patch panels support eight-lead RJ-45 plugs, migration to ISDN NP Nov. p. 234

Putting fiber into the backbone campus network NP April p. 216

SPECIAL NEWS REPORT: Apples, and Unix, and DOS, oh my! NF Feb. p. 69 Streamlined packet scheme gathers growing support for future networks NF July p. 62

T1 network design and planning made easier F Sept. p. 199

T1 to ISDN: How to get there from here F Feb. p. 178

The formula for network immortality F Aug. p. 112

The shots seen round the world F Dec. p. 94

Three Buses underlie new IBM front-end processor's powers NF March p. 62

User voices to be heard in ISDN implementations DL Feb. p. 80

Wide area networks: Sewing a patchwork of pieces together F May p. 219

### NETWORK ECONOMICS

1987: The year when networking becarne part of the bottom line F Jan. p. 165

Airwaves access coming from bank trial in Buffalo D Feb. p. 16

Breaking the throughput barrier: Which high-speed moderns test best F May p. 70

Business phone costs continue decline EN March p. 35

Calculating the business side of the networking equation E/ET July p. 13

Compression scheme squeezes price, max performance from PC modems NF March p. 66

Data compressor has automatic backup for nonstop sessions NP March p. 315

FCC to try again on special-access tariffs W May p. 25

FCC's Patrick, carriers like price cap but does anyone else? W June p. 25

Helping customers roll their own networks D May p. 16

How to cope if private networks are made to pay access charges NF Jan. p. 58

Is a private T1 network the right business decision? F July p. 116

Leased-line costs soar, dial costs drop EN April p. 35

Looking ahead: Network planning for the 1990s F Feb. p. 185

Market bearish, Merrill gets bypass bullish DL Feb. p. 80

Minimize risk: Pick the right product plus the right vendor F July p. 149 Nationwide: AT&T rate cuts set; RBOC plans vetoed TL Feb. p. 43

Networking engineers—without busting the budget IW Aug. p. 95

Pushing dial-up 'protocol' modems to 38.4 kbit/s NP June p. 229

Restoring damaged switches, computers can make sense IW Feb. p. 89 Turning your network into a profit center:

Users as vendors F July p. 89
User study: More corporations turned

on by microwave gear NF April p. 76 'What-ifs' compare carrier costs NS July p. 213

### NETWORK MANAGEMENT/ DIAGNOSTICS

... and promises users fruit from ESF D April p. 15

A new 'NET-manager' for ComDesign D Sept. p. 15

Adapt protocol analyzers for T1 channel testing NP Jan. p. 232

Analyzer allows simultaneous testing of DS1 and DS3 NP June p. 248 Analyzer detects bottlenecks, cable

breaks, packet jams NP Oct. p. 227
Analyzing SNA/SDLC network perform-

ance on 19.2-kbit/s lines NP May p. 265

Beating the backhoe: Users and carriers break new turf NF April p. 51

CSU has a 4-kbit/s data link; uses the Extended Superframe Format NP June p. 246

DDS's latest wrinkle: Uper diagnostics in a separate channel F Dec. p. 121 DEC steers new course toward OSI net

management NF Sept. p. 49
Designing network control centers for greater productivity F April p. 138

DG unveils 'OSI' net management application D Nov. p. 16

ESF making a hit in T1 diagnostics; new standard could make it bigger NF June p. 58

Fairness in LANs: Is the performance price worth it? F Feb. p. 151

Family of network management modems is announced NP Dec. p. 162 Finding and fixing network faults with an

expert system F June p. 149
Five protocol analyzers are announced
NP May p. 262

Gauging LAN hardware reliability NS Dec. p. 191

Helping customers roll their own networks D May p. 16

How to detect frame slips in voiceband PCM channels F Oct. p. 205

How to find phone-line faults and what to do about them F Sept. p. 179 HP to unveil ISDN test equipment D

HP to unveil ISDN test equipment D Sept. p. 15

LAN protocol analyzer supports Starlan and Ethernet networks NP Oct. p. 244

Making the most of the versatile breakout box F March p. 167

Making the most of your X.25 protocol analyzer F Feb. p. 165

Managing networks from a central-site PC-based workstation NP Sept. p. 227

Mid Atlantic: Network management for CO-LAN users TL Oct. p. 41

Mid-range protocol tester supports color display at 72 kbit/s NP June p. 232

Modem-based network management works on leased lines NP Sept. p. 223 Net analysis NS Sept. p. 266 Net management NS Nov. p. 256 Network analyzer NS Feb. p. 240

Network management fits OSI NS May p. 282

Network management offers interactive diagnostic capability NP Nov. p. 227 Network management on TCP/IP: When experts can't agree NF Nov. p. 62

Network management triple play: AT&T, Cincom and the RBOCs? D July p. 16 New modern test standard hailed, but

some say it's not tough enough NF Oct. p. 60 New offerings unite PCs and LANs with a management package NP March p. 310

PC-based equipment manages multiplexers as well as modems NP June p. 235

PC-based network management station gets XNS capability NP Feb. p. 207 Problem solving NS March p. 335

Protocol analyzer monitors X.25 and SNA data at 56 kbit/s NP May p. 264 Remote control unit supports up to 512 switched lines NP Feb. p. 199

Running other firms' networks—a small, but coming business IW Feb. p. 95 Simulating data transmission from 4.8

Simulating data transmission from kbit/s to T1 NP Aug. p. 177

Smart patch panel is controlled by PC; generates reports NP March p. 295 SNA network management: What makes

IBM's Netview tick? F June p. 203 Some common sense about network viruses, and what to do about them NF April p. 60

Super controller monitors, configures, and tests 500 modems NP Aug. p. 182 Switch helps kick in spare T1 mux and reconfigure data links NP Sept. p. 226

T1 muxes in state of flux over bringing ESF to users NF June p. 62

Test gear yields simultaneous analysis of two physical ports NP March p. 306

Test reports range from DS-3 diagnostics to B- and D-channel stats NP Dec. p. 161

Two matrix switches expand management capabilities NP May p. 267 Two test units measure T1 line perform-

ance NP Sept. p. 231
Using high-speed switches to manage

complex networks NP Nov. p. 231 V.32 modem, network management, and async tester unveiled NP March p. 313

### **NEWSMAKERS**

Frank M. Tuttle Jr. and James M. Barrett: The two old salts in charge of TAT-8 ponder future projects and sharks' appetites NM Oct. p. 111

Gerald Brock: The FCC's detail man links the market, ethics, and public policy NM Jan. p. 103

Gottfried Ungerboeck: The 'father' of Trellis encoding whose discovery fell on deaf ears at IBM NM April p. 105

James E. Nelson: The art of managing the largest network in the world NM Feb. p. 107

Judge Harold H. Greene: Ten years later, the judge still puts his trust in antitrust NM Aug. p. 97

Larrabee M. Smith: The man behind the critical ISDN end-user interface NM Sept. p. 109 Laurie Bride: Boeing's TOP gun wields flexibility to nurture a young standard N May p. 107

Melvin Schwartz: Silicon Valley executive wins Nobel for research done in 'prior life' NM Dec. p. 85

Radia Perlman: A math maven sees her algorithms adopted by standards bodies NM March p. 123

Ronald V. Schmidt: An engineer scores with 'low-class' technology: twistedpair Ethernet NM June p. 113

Sen. Albert Gore: Former presidential candidate now plays the politics of computer networking NM Nov. p. 105

Shukri Wakid: Cofounder of users' group aims to close America's 'ISDN gap' NM July p. 103

### PACKET SWITCHING

Async terminals get multi-emulation plus many sessions via X.25 NP Nov. p. 230

AT&T's fast packet switch: From blue sky to Star Wars? D March p. 15

Combining statistical time-division mux with X.25 capability NP Oct. p. 228

Don't just guess: How to figure delays in private packet F March p. 197

Encryption device for asynchronous data secures X.25 networks NP April p. 211

How packet-mode transmission services will evolve in ISDN F April p. 201

Integrated modern with X.25 PAD pumps over leased or dial-up lines NP Feb. p. 201

Is your packet network a 'model' of response-time efficiency? F May p. 139

Making the most of your X.25 protocol analyzer F Feb. p. 165

Managing PADs NS Nov. p. 258 Managing remote X.25 devices; data PBX gets a gateway NP Feb. p. 197

Meanwhile, BBN/NSS packet switch will wait 'til next year D March p. 15

Modem has optional PAD, pumps 2.4 kbit/s half or full duplex NP Jan. p. 233

Multi-protocol packet-switching node has eight to 72 ports NP March p. 298

New nodes and PADs are added to packet product lineup NP March p. 307

Packet switches debut; support 8 to 30,000 access lines NP May p. 267

Packet/circuit switch cum multiplexer needs no protocol converter NP Jan. p. 227

Packets are hot tickets for some, but sticky wickets for others IW April p. 87

PAD power at the PC: Adding zip to the packet-switching network NF Oct. p. 64 PAD supports multiple protocols over a single X.25 transmission line NP Oct. p. 238

PADs for async, SNA, and X.25 hookups on multi 64-kbit/s links NP May p. 268

PC board plus software lets Macintosh Ils connect with X.25 networks NP Dec. p. 159

Programmable processor can pump 800 packets/second NP Sept. p. 224 Protecting the security of X.25 commu-

nications F Nov. p. 123

Smart switch is used as port selector, port contender, or X.25 gate NP July p. 195

SNA meets X.25 NS Feb. p. 242 Southeast: Bell South, Telenet link TL Jan. p. 43

Streamlined packet scheme gathers growing support for future networks NF July p. 62

10-port card lets users mix PAD, concentrator, and switch functions NP Dec. p. 162

T1 base plus X.25 support NS June p. 267

T1 networking node suits midsize user; packet net is low cost NP March p. 304

Will X.25 link X.25 private nets to X.25 public nets? D Sept. p. 16

X.25 access NS May p. 287

X.25 board boasts 64-bit architecture, speeds to 10 Mbit/s NP June p. 242

X.25 board lets PCs access packetswitched networks at 19.2 kbit/s NP Sept. p. 226

X.25 bridge NS Dec. p. 193

X.25 packet switch supports 20 trunks at 64 kbit/s each NP Sept. p. 232

X.25 PAD supports local or remote operator consoles NP Nov. p. 227

X.25 support NS April p. 250 X.25 switch handles eight links

X.25 switch handles eight links; can be used as a concentrator NP Feb. p. 208

### PBX

AT&T backs used PBX sales DL Dec. p. 67

Data PBX sales up, but revenues down EN July p. 35

Distribution, service to rule PBX industry IW Sept. p. 99

Don't junk that PBX! Secondhand market gets AT&T, IBM blessing NF March p. 58

Equinox, Tellabs tops in data PBXs F Dec. p. 89

Fujitsu takes over from GTE in PBXs EN Oct. p. 33

Leaky-PBX fix: Let BOCs scan PBX, Centrex traffic W Feb. p. 25 Making PC software work with digital PBXs F Oct. p. 128 Managing remote X.25 devices; data PBX gets a gateway NP Feb. p. 197 'Pooling' your PBX's data-handling resources F Dec. p. 111

Restoring damaged switches, computers can make sense IW Feb. p. 89

Something old: Data PBX technology brings 'user-initiated switching' to T1 muxes NF Dec. p. 49

SPECIAL NEWS REPORT: Inside IBM's new PBX, or the search for an office networking hub NF Jan. p. 69

### PRINTERS

Link eight personal computers and two printers without a LAN NP Jan. p. 234 Managing printers in a network of personal computers NP Feb. p. 210 Print servers NS March p. 339 Serving printers NS Feb. p. 243 Serving printers NS March p. 335 Serving printers NS May p. 286

### **PROTOCOLS**

Analyzing SNA/SDLC network performance on 19.2-kbit/s lines NP May p. 265

APPN doesn't spell O-P-E-N D May p. 15

Bridge cum router unveiled; ISO gate spans a product line NP May p. 268 COS bats .500 in Baltimore NF July p. 55

COS fiddles with testers while OSI vendors burn NF Feb. p. 51

COS snubbed: Europeans take huge lead in OSI testing standards NF Feb. p. 56

Dial-up modern supports SNA/SDLC at 19.2 kbit/s NP July p. 195

European testers make MAP conformance an ENE success NF July p. 58 Europeans dominate OSI testing arena

D Oct. p. 16

Extending LANs with mixed cabling and multiprotocols NP April p. 224

First full OSI testing service D Jan. p. 15 From TOP (3.0) to bottom: Architectural close-up F May p. 237

Government standard will drive OSI in U. S. W May p. 25

Much to gain from V.42 standard, but be sure to check the fine print NF July p. 74

OSI's final frontier: The application layer F Jan. p. 137

PC controllers for wide area networks support multiple OSI protocols NP Sept. p. 229

PCs get SNA, BSC, X.25, and DFT—at the same time NS Oct. p. 263 Protocol analyzer monitors X.25 and

SNA data at 56 kbit/s NP May p. 264 SDLC communications board supports

multiple protocols NP June p. 234 SNA network management: What makes IBM's Netview tick? F June p. 203

Stepping off the OSI standards bandwagon F June p. 133

Upper layers: From bizarre to bazaar F Jan. p. 110

Vendors plot ways to give LAN users access to multiple protocol stacks NF Sept. p. 54

VTP gateways may be needed to link TCP/IP with OSI nets D July p. 16

### REGULATIONS, INTERNATIONAL

FCC okays a second Atlantic fiber cable W July p. 26

Foreign calls soar \$1.4 billion in decade DL Feb. p. 81

International: Japan carrier asks for big rate reductions TL Feb. p. 43

Japanese let standards get in way of VAN free trade agreement W June p. 26

More regulation or less? WATTC divisions defy compromise NF Aug. p. 66



National incompatibilities threaten Europe's ISDN lead NF Aug. p. 64 Nynex flops in transatlantic bid; substitute sought DL Aug. p. 82

Nynex gets another 'no'; PTAT to continue DL Sept. p. 85

Open season on German telecom? W May p. 26

PTT-Infonet deal offers glimpse of post-1992 VAN reality in Europe NF Sept. p. 60

RBOCs race for slice of European pie NF Sept. p. 64

Space WARC truce between the West and the third world W Nov. p. 26

Special deals with PTTs blasted by carrier W Feb. p. 26 U. S. fights additional satellite red tape

W May p. 26

### REGULATIONS, NATIONAL

... and AT&T agrees, sort of W Jan. p. 26

... while Congress tightens screws on

the FCC W Nov. p. 25 A kinder, gentler FCC? W Dec. p. 25 A long road to haul for fiber optics W Jan. p. 25

Are two land mobile satellite bands better than one? W Oct. p. 26

AT&T offers tougher plan to safeguard user data W Aug. p. 25 AT&T seeks FCC okay to get down to

MCl's level W June p. 25 Bellcore: Price caps will save consumers

\$5 billion W Oct. p. 26 Bypassing of Judge Greene on Congress's calendar W Dec. p. 26

Case closed in government bid to secure private databases W Feb. p. 25 Collocation issue heating up, likely to

stall ONA progress NF March p. 70 Commerce looks to the 21st century W Jan. p. 26

Commerce prods Patrick to take on Greene W Jan. p. 25

Consumers' arguments sway judge on information services W April p. 25

Does FCC's DS-3 ruling apply to 'dark fiber'? W Sept. p. 26 FCC cellular proposal draws support V

FCC cellular proposal draws support W March p. 26

FCC gives telcos nod for cable TV business W Aug. p. 25

FCC launches review of GE tariff DL Feb. p. 80

FCC plan to unify 800 numbers puts spotlight on AT&T patent NF Sept. p. 68

FCC reports good news for network users TL March p. 45

FCC says yea to some ONA plans, nay to others W Dec. p. 25

FCC should look at access fees, users say . . . W Jan. p. 26

FCC tightens screws on BOC's T1 access tariffs . . . W Nov. p. 25

FCC to stuff leaky PBXs with surrogate charge W Aug. p. 26

FCC to try again on special-access tariffs W May p. 25

FCC uphoids user right to bypass telco W March p. 25

FCC won't reclassify protocol conversion W Feb. p. 26

FCC's Patrick, carriers like price cap but does anyone else? W June p. 25

Fiery expose: No national authority oversees central office security NF July p. 68

Formula may let users mine RF 'pockets' DL Nov. p. 84

GSA chides big networkd DL Oct. p. 84 GSA switch brouhaha is a tale thrice told, or more W March p. 26

Hollings' revenge threatens price caps W July p. 25

How to cope if private networks are made to pay access charges NF Jan. p. 58 Justice asks Greene to deregulate multi-LATA paging W Nov. p. 26 Leaky-PBX fix: Let BOCs scan PBX, Centrex traffic W Feb. p. 25

MCI worries rate cap may help AT&T W April p. 26

MCl's McGowan roasts SWB for locking out state auditors W Nov. p. 25 Nationwide: AT&T rate cuts set: RBOC

plans vetoed TL Feb. p. 43 NTIA takes parting shot at Greene W Sept. p. 26

Pac Tel caught on bleeding edge of Greene ruling W Jan. p. 25 PacTel jumps in with joint marketing

plan W April p. 25 Privacy beep may bollix up modern links

W Feb. p. 25 R&D tax credits now up to Bentsen Rostenkowski W Sept. p. 26

RBOCs wonder if Bellcore work is affected by Greene ban W April p. 26 RCA gets FCC dispensation for en-

hanced services TL March p. 45
Rebates from strategic pricing? Court
could end FCC foot-dragging NF
Sept. p. 58

Round 1 for price caps ends W Sept. p. 25

Should AT&T pay for unauthorized calls? W Aug. p. 26

Should the FCC dial 800-D-E-L-A-Y? W May p. 25

State PUCs fenced off from inside wiring W May p. 26

Tariff 15 inquiry now targets MCI D Oct. p. 16

The tales they tell when GOSIPs get together D Dec. p. 16

This time, MCI looks like Goliath W Feb. p. 26

Trade bill gives new role to NBS W Oct. p. 26

Users win again as FCC battles states W June p. 26

VAN access charge is pronounced dead by FCC W June p. 26 Virus attack prompts Capitol Hill probe

Virus attack prompts Capitol Hill probe of federal network security W Dec. p. 25

Washington will get off fiber's back W March p. 26 Who can tell what the phone company

knows about you? NF June p. 55
Will VAN access charges return from
the grave? D April p. 16

### REGULATIONS, STATE & REGIONAL

Baby Bells ring out more services W Oct. p. 25

BOC gateway to pricing problems W June p. 26

Central: State network to connect universities, government TL Nov. p. 41 FCC frowning on customized BOC DS-3 rates W June p. 25 FCC gives telcos nod for cable TV

business W Aug. p. 25 FCC supports do-it-yourself wiring in N. Y. W Dec. p. 26

Federal grand jury probes Cincinnati Bell wiretapping flap NF Nov. p. 70 Justice backs PacTel on Pacific fiber

optics W Dec. p. 25 Mid Atlantic: Bell Atlantic inks E-mail

deal with Telenet TL Dec. p. 41 Mid Atlantic: Fiber to some Pennsylvania doorsteps EN Aug. p. 45

Mid Atlantic: Pennsylvania deregulated? TL Jan. p. 43

Midwest: Ameritech unveils new CO-LAN service TL June p. 45

Midwest: IntraLATA competition in Michigan TL Jan. p. 43

Midwest: New Michigan Intra-LATAs TL Feb. p. 43

Midwest: Special deals under scrutiny in Indiana TL July p. 45

Midwest: Supreme Court to hear case on Illinois phone tax TL April p. 43 New England: Centrex LAN in the pic-

ture for Polariod TL July p. 45
New England: FCC waives CEI rules for
New England Telephone TL Dec.
p. 41

New England: First local virtual network tariff filed TL Feb. p. 43

Northeast: Maine has own ONA plans: New York wants bigger AT&T rate cut TL May p. 43

Northeast: N. Y. butts heads with FCC on ONA TL Sept. p. 41

Northeast: Nynex SDN now in Beta: Centrex LAN gets add-ons TL June p. 45

Pac Tel caught on bleeding edge of Greene ruling W Jan. p. 25 Pacific Bell tests electronic mail DL

Sept. p. 85 PacTel jumps in with joint marketing

plan W April p. 25 RBOCs wonder if Bellcore work is affected by Greene ban W April p. 26

South Central: Private-line, digital and SDN rates restructured TL Sept. p. 41 Southeast: Bell South, Telenet link TL

Jan. p. 43 Southeast: Mississippi gears up for de-

regulation TL July p. 45 Southeast: South Carolina rises to T1 TL May p. 43

Southeast: US Sprint tops complaint list TL April p. 43

Southwest: Southwestern Bell trials EDI billing FN Aug. p. 45

billing EN Aug. p. 45 State PUCs fenced off from inside wir-

ing W May p. 26 US West moves to counter bypass: Others cry foul W March p. 25

US West's configuration service gets FCC approval W July p. 26 Users win again as FCC battles states W June p. 26

VDT law passes in New York's Suffolk County; more expected W Aug. p. 26 'Victorian' era ends with Pac Bell raffle W July p. 25

West Coast: GTOC users would see big rate cut TL Sept. p. 41

West Coast: Oregon mulls extended calling areas TL July p. 45 West Coast: Pac Bell plans coast-to-

coast E-mail trails TL Oct. p. 41 West Coast: Pacific Bell to make \$86 million cutback TL Feb. p. 43

West Coast: Pacific Bell to make \$86.4 million cut TL Jan. p. 43

### SATELLITES

Are two land mobile satellite bands better than one? W Oct. p. 26 Chrysler trusts GM for satellite link DL Nov. p. 853

New shared VSAT hub service coming

EN Sept. p. 33

Nynex rushes to be first RBOC offering LATA-wide virtual network NF Jan. p. 62

Oops, oops for Canada's VSAT DL July p. 85

Satellite links for the masses: The final frontier? F Nov. p. 179

Space WARC truce between the West and the third world W Nov. p. 26

Tiny satellite gear receives at 56 kbit/s DL Dec. p. 67

U.S. fights additional satellite red tape W May p. 26

Wide area networks: Sewing a patchwork of pieces together F May p. 219

### SECURITY

Board-level TCP/IP server gives encrypted terminal emulation NP April p. 216

Case closed in government bid to secure private databases W Feb. p. 25 Encryption device for asynchronous

data secures X.25 networks NP April p. 211

How to get back at hackers: Bill them W April p. 25

Information laws are dated in electronic database era W Nov. p. 26

Internet virus aftermath: Is tighter security coming? NF Dec. p. 52

Long journey to OSI security standards begins in Washington NF April p. 64 Mail security NS Feb. p. 240

Millions for computer defense DL Sept. p. 84

Network security NS Jan. p. 258 Preventing data theft on broadband local area networks F May p. 127 Protecting the security of X.25 commu-

Secure-ware NS Aug. p. 206

nications F Nov. p. 123

Secure-ware NS June p. 272 Securing LANs NS June p. 270 Security gear keeps hard drive encrypted NP Jan. p. 229 Security spans MVS, VAX/VMS networks NS Sept. p. 259

Soft Andromeda strain hits NASA DL Aug. p. 83

Some common sense about network viruses, and what to do about them NF April p. 60

Tailgating: A dirty little network security problem NF March p. 54

Virus attack prompts Capitol Hill probe of federal network security W Dec. p. 25

### SERVICES

. and AT&T agrees, sort of W Jan.

Ameritech to try systems integration? D Feb. p. 15

AT&T offers digital son of EPSCS W Sept. p. 25

AT&T's new BMS: No bandwidth flexibility, but it does switch NF June p. 66 AT&T, Ford bet \$100,000 on network

delivery D April p. 16 AT&T: Don't leave home without Tariff 12 W Oct. p. 25

Baby Bells ring out more services W Oct. p. 25

Building-block units add up to a platform for network services NP April p. 218 Cable TV firm weighs big local fiber

network DL Feb. p. 81 California directory goes on-line TL March p. 45

FCC won't reclassify protocol conversion W Feb. p. 26

Justice asks Greene to deregulate multi-LATA paging W Nov. p. 26

Mac's big ISDN choices: Deal or tariff, coax or primary D June p. 15 MCI readies new dialing services for virtual network D May p. 16

Mid Atlantic: MAN trials to start soon in Philadelphia TL Nov. p. 41

Mid Atlantic: Network management for CO-LAN users TL Oct. p. 41

Mid Atlantic: Fiber to some Pennsylvania doorsteps EN Aug. p. 45 Midwest: Ameritech unveils new CO-

LAN service TL June p. 45 Midwest: Doctors targeted for ISDN ser-

vices TL Oct. p. 41 Networking for greater metropolitan areas F Feb. p. 114

New England: First local virtual network tariff filed TL Feb. p. 43

New RBOC data gateways spring up across the U.S. NF Dec. p. 60

New shared VSAT hub service coming EN Sept. p. 33

Northeast: Nynex SDN now in Beta: Centrex LAN gets add-ons TL June p. 45

Nynex rushes to be first RBOC offering LATA-wide virtual network NF Jan.

Peripheral gateways take the software burden off the host NP Dec. p. 159 Ratings reveal carriers are worlds apart

F Aug. p. 104 RCA gets FCC dispensation for en-

hanced services TL March p. 45 Ready to switch? Dial-up services faring better against leased lines NF Dec.

Satellite links for the masses: The final frontier? F Nov. p. 179

South Central: Private-line, digital and SDN rates restructured TL Sept. p. 41 Southeast: Bell South, Telenet link TL Jan. p. 43

Tariff 15 inquiry now targets MCI D Oct. p. 16

Turning your network into a profit center: Users as vendors F July p. 89 U. K. to try radio for delivery of broad-

band interactive services D Nov. p. 16 US West's configuration service gets

FCC approval W July p. 26 'Victorian' era ends with Pac Bell raffle W July p. 25

West Coast: GTOC users would see big rate cut TL Sept. p. 41

Work started on North American digital cellular standard D Sept. p. 16

### SOFTWARE

. LAN ability NS Nov. p. 255 12 users who have no LAN share a PC NS Dec. p. 191 Alternate E-mail NS Aug. p. 204 An RBOC special NS Dec. p. 192 Anytime message NS June p. 268 Applications NS July p. 216 ASCII emulation NS Dec. p. 191 Async gateway NS Sept. p. 264 Background mail NS Dec. p. 192 Bisync on PS/2s NS Feb. p. 239 Boosting DOS NS Aug. p. 201 Boosting link speed NS Oct. p. 264 Boosting TCP/IP NS July p. 218 Bulletin boards NS April p. 252 Bypassing bulletin boards NS April p. 246

Cheaper links NS June p. 277 Controlling EDI NS Sept. p. 267 DEC graphics on PCs NS Nov. p. 257 DEC-IBM link NS Oct. p. 268 Desktop duo NS Feb. p. 230 Disk-less NS Feb. p. 242 DOS for many NS July p. 214 DOS plus host NS Feb. p. 243 E-mail NS Oct. p. 269 E-mail plus fax NS Nov. p. 256 E-mail, MS-DOS 4.0 NS Dec. p. 194 Easylink mail NS Nov. p. 258 Embracing Token Ring NS Nov. p. 259 Emulation of 7800s NS March p. 338 Emulations NS Jan. p. 251

End-user OSI gear NS Dec. p. 193 Extending windows NS Feb. p. 242 Fax network NS Jan. p. 259 FAX-ware NS May p. 284 File sharing NS Aug. p. 207 File transfer, reformatting NS March p. 335 For OS/2 NS April p. 251 For TCP/IP LANs NS Feb. p. 241 For very large networks NS May p. 283 Free Mac-ware NS Aug. p. 204 Gathering data NS Feb. p. 238 Getting there from here: Mapping from TOP P to OSI F Aug. p. 161 Group ware: PCs + Macs NS April D. 246 Host links NS June p. 276 Host-ware NS July p. 217 IBM bringing OSI packages to U.S. shores this year D Aug. p. 15 IBM separates LAN Server from Microsoft's LAN Manager . . . D Dec. p. 15 Image-to-host NS June p. 269 Including VMS NS March p. 339 Integrated PCs NS Sept. p. 259 InterLAN to link Netware and LAN Manager D Nov. p. 15 International release NS Jan. p. 253 International traffic NS Jan. p. 251 Interoperating NS July p. 214 LAN-ware NS Sept. p. 259 LAN-to-LAN NS May p. 286 LANs plus OSI NS Sept. p. 265 LAT for PCs NS July p. 218 License meter NS April p. 252 Linking dissimilar devices NS Feb. Linking PS/2s NS May p. 287 Lotus cum E-mail NS Jan. p. 255 MAC sessions NS Dec. p. 194 Mac-to-VAX NS May p. 286 Mac-ware NS Feb. p. 231 Maii gateway NS May p. 287 Mail interface NS June p. 274 Mail security NS Feb. p. 240 Management on Apollo NS April p. 257 Managing bridges NS July p. 216 Managing PADs NS Nov. p. 258 Managing PCs NS May p. 285 Managing VAX NS May p. 286 MAP 3.0 support NS June p. 268 More connections NS April p. 253 More emulation NS Aug. p. 205 More mail NS May p. 284 More mail NS Oct. p. 269 More TCP/IP links NS April p. 246 MS-DOS for many NS Dec. p. 195 MS-DOS to Ultrix NS Aug. p. 202 Multi-Netware NS Feb. p. 232 Multi-user option NS May p. 286 Multivendor applications NS Oct. p. 271 NBS links TCP/IP and X.400 message worlds D May p. 15 Net analysis NS Sept. p. 266

Netware LU6.2 NS April p. 254 Network analyzer NS Feb. p. 240 Network security NS Jan. p. 258 Networking NS Feb. p. 231 Networking PCs NS July p. 217 Networking PCs NS Sept. p. 268 New software for distributing applications across mixed OSs NF March Next-generation NOSs already are yielding practical benefits NF May p. 60 No software NS Aug. p. 206 No Token, but IBM brings OSI into SAA D Oct. p. 16 Office integration NS July p. 213 On-line creations NS June p. 270 One-for-all fax NS Feb. p. 241 OS/2 machines NS Sept. p. 267 OS/2 support NS April p. 256 OSI gear NS Oct. p. 264 OSI's final frontier: The application layer F Jan. p. 137

ditorial viewpoint/EOT conomic newsletter cature enington n

PC exchange NS June p. 272 PC mail NS Jan. p. 254 PC share-ware NS Oct. p. 270 PC-to-host NS June p. 276 PC-ware NS Feb. p. 237 PC-ware NS March p. 336 Phoning the host NS Jan. p. 255 Print servers NS March p. 339 Problem solving NS March p. 335 PS/2 graphics NS June p. 272 PS/2 support grows . . . NS Jan. p. 257 Reaching more users NS Oct. p. 271 Remote control NS Jan. p. 256 Remote Ethernet NS Sept. p. 264 Remote files NS July p. 219 Remote mail NS Feb. p. 239 Secure-ware NS Aug. p. 206 Secure-ware NS June p. 272 Securing LANs NS June p. 270 Select the right LAN applications for the right job F July p. 143 Serving MACs NS Sept. p. 260 Serving printers NS Feb. p. 243 Serving printers NS March p. 335 Serving printers NS May p. 286 Shared data NS May p. 284 Sharing moderns NS April p. 256

Sick of software? Network virus? Insurance won't help NF June p. 70 SNA connect NS Feb. p. 232 SNA meets X.25 NS Feb. p. 242 Spanning SNA NS May p. 288 SPECIAL NEWS FEATURE: The dawn of the generic platform NF Feb. p. 66 SPECIAL NEWS REPORT: Apples, and Unix, and DOS, oh my! NF Feb. p. 69 Spreading Unix NS Sept. p. 260 Sync data NS May p. 284 System/38-ware NS Jan. p. 252 Talk to eight PS/2s NS May p. 284 Talking to Silverlake NS Sept. p. 268 TCP/IP access NS Nov. p. 259 TCP/IP support NS Jan. p. 252 The 4.0 that Microsoft forgot DL Sept. The Emperor's new software E/ET July Third parties NS Feb. p. 238 To VAX at 56 kbit/s NS Sept. p. 266 Unix plus DOS NS Nov. p. 261 Unix power NS July p. 215 Upgraded emulation NS April p. 254 Upper layers: From bizarre to bazaar F Jan. p. 110 V.25bis support NS July p. 216 VAXs and LANs NS Jan. p. 252 VTAM versions NS April p. 251 'What-ifs' compare carrier costs NS July p. 213 Widening Decnet NS July p. 216 Wider windows NS Sept. p. 264 Will alliances confuse Unix standards? DL April p. 78 Windows across the network: How Sun and Microsoft differ NF July p. 72 X.25 access NS May p. 287 X.25 bridge NS Dec. p. 193 X.25 support NS April p. 250

STANDARDS A new Big Blue ISDN testing tool D April Birth of a standard: X.500 and its very human creators NF Nov. p. 67 CCITT rejects both MNP and ACT for compression standard D Dec. p. 15 Coming soon: A cabling standard for buildings F Aug. p. 113 Companies can be sued for their standards activities W Aug. p. 25 COS bats .500 in Baltimore NF July p. 55 COS fiddles with testers while OSI vendors burn NF Feb. p. 51 COS snubbed: Europeans take huge lead in OSI testing standards NF Feb. p. 56 Distributed OSI NS March p. 340 End-user OSI gear NS Dec. p. 193 Europe moving rapidly toward international ISDN service D May p. 15 Europe's SPAG and U.S.'s COS fight

profiles of incompatibility NF Jan.

Net management NS Nov. p. 256

p. 64
Falling back on V.32 D Sept. p. 15
FDDI face-off: AT&T and IBM vs. the
rest of the world D Feb. p. 16
Flevibility or berest/ The structure to

Hexibility or heresy? The struggle to redraw MAP NF Nov. p. 49 Forests fall as CCITT's latest standards

move to press D Aug. p. 16 Getting there from here: Mapping from TCP/IP to OSI F Aug. p. 161

Government standard will drive OSI in U. S. W May p. 25

Hands-on guide to broadband MAP/TOP D March p. 16

Hope springs eternal for asymmetrical modern standard D June p. 16

Japanese let standards get in way of VAN free trade agreement W June p. 26

Long journey to OSI security standards begins in Washington NF April p. 64 Network management fits OSI NS May p. 282

Network management on TCP/IP: When experts can't agree NF Nov. p. 62

New proposal extends the reach of metro area nets F Feb. p. 139

No Token, but IBM brings OSI into SAA D Oct. p. 16

OSI gear NS Oct. p. 264

Pondering the private-to-public fiber connection: FDDI to Sonet NF May p. 68

Premises-wide cabling spec on the way D June p. 15

Preparing for the new electronic funds transfer message standards F May p. 175

Sonet standard set in spirited Seoul session D March p. 15

Stepping off the OSI standards bandwagon F June p. 133

Tester outfit wants to emulate Microsoft D Nov. p. 15

The age of standards: Promises, products, and problems E/ET Sept. p. 13

The standards deluge: A sound foundation or a Tower of Babel? F Sept. p. 150

The tales they tell when GOSIPs get together D Dec. p. 16

Too many LAN network 'standards'? CAS joins in the confusion NF Oct. p. 56

Under the Big TOP at Enterprise '88: TOP 3.0's debut F April p. 155

Upper layers: From bizarre to bazaar F Jan. p. 110

V.32 modems are breaking through the echo barrier F April p. 187

Who sets the standards: Microcom goes to the head of the Class IW June p. 103

Will alliances confuse Unix standards? DL April p. 78 STORAGE DEVICES/MEDIA

First full OSI testing service D Jan. p. 15 Letting coprocessor access the disk drive frees the PC's CPU NP Jan. p. 229

Shining future for optical disks seen EN June p. 35

Turn an IBM AT into a file server for multiple PCs NP Feb. p. 210 VAX as server NS Feb. p. 238

### SWITCHING

... while switches brew in research labs D Oct. p. 15

AT&T holds call setup time lead, for now D March p. 16

AT&T's fast packet switch: From blue sky to Star Wars? D March p. 15

Carriers turn to 3/3 DACS for relief NF April p. 54

Equinox, Tellabs tops in data PBXs F Dec. p. 89

Ericsson claims first 'practical' optical switch DL Aug. p. 83

In optics, Japan has breadth, depth NF March p. 82

Meanwhile BBN/NSS packet switch will wait 'til next year D March p. 15

Packet/circuit switch cum multiplexer needs no protocol converter NP Jan. p. 227

'Pooling' your PBX's data-handling resources F Dec. p. 111

Restoring damaged switches, computers can make sense IW Feb. p. 89

Smart switch is used as port selector, port contender, or X.25 gate NP July p. 195

Southeast: South Central, Sprint link up at 56 kbit/s TL June p. 45

SPECIAL NEWS REPORT: Inside IBM's new PBX, or the search for an office networking hub NF Jan. p. 69

SPECIAL NEWS REPORT: Optical switches herald a new Age of Enlightenment NF March p. 81

Stat mux offers eight-port switching at the link level NP June p. 232

Switch helps kick in spare T1 mux and reconfigure data links NP Sept. p. 226

Two matrix switches expand management capabilities NP May p. 267

Using high-speed switches to manage complex networks NP Nov. p. 231 X.25 switch handles eight links; can be used as a concentrator NP Feb.

### TELECONFERENCING

p. 208

A second pair of EIESs for electronic conferencing D May p. 16

Georgia Tech squeezes pictures 10,000 times DL Jan. p. 78

New ways to have a videoconference are unveiled NP Aug. p. 184 Setting codec rate on videoconferencing gear: 56 to 768 kbit/s NP Aug. p. 184

### TERMINALS

Add-in board combines protocol converter, controller capabilities NP April p. 214

Another use for the Token Ring: Speeding slow 3270 response times NF Oct. p. 70

ASCII emulation NS Dec. p. 191
Async terminals get multi-emulation plus
many sessions via X.25 NP Nov.
p. 230

Communications adapter for IBM PCs links to 3274, 3174 NP Feb. p. 200 Create a port-sharing network for eight PCs or 3270 terminals NP Aug. p. 186

Emulation of 7800s NS March p. 338 Ethemet terminal server is compatible with the LAT protocol NP April p. 225 Hand-held units still strong EN April

p. 35 Hook remote twinaxial gear to IBM minis for \$1,995 per link NP May p. 259 ICL bets big on ISDN workstation NF

July p. 64 More emulation NS Aug. p. 205 Multiplexer targets niche application:

IBM 3X74 controllers NP Jan. p. 231 NCR family features networking interfaces; clusters 4,000 terminals NP May p. 262

Portable terminal displays VT 220; has internal modern NP June p. 238

Processor plus VM/XA allows 5,500 concurrent Profs users per system NP Sept. p. 230

Remote terminal server connects 'ASCIIs' to host NP July p. 200 SNA gateway runs 3270 and LU 6.2

SNA gateway runs 3270 and LU 6.2 applications over same line NP April p. 211

### VIDEOTEX/DATABASE SERVICES

BOC gateway to pricing problems W June p. 26

BOCs slate videotex, MAN trial DL Oct. p. 84

Consumers' arguments sway judge on information services W April p. 25 Enterprising idea? IBM lays plans to control databases of the '90s NF April p. 72

VAN access charge is pronounced dead by FCC W June p. 26 Videotex reheats in U. S.; Canada DL

July p. 84

West Coast: San Francisco gets a crack at videotex too TL Nov. p. 41

### VOICE SYNTHESIS/RESPONSE

Entry-level voice gateway connects phones to databases NP Dec. p. 161